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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent
appln. of: Kosta L. PELONIS

Serial No.: 09/996,842

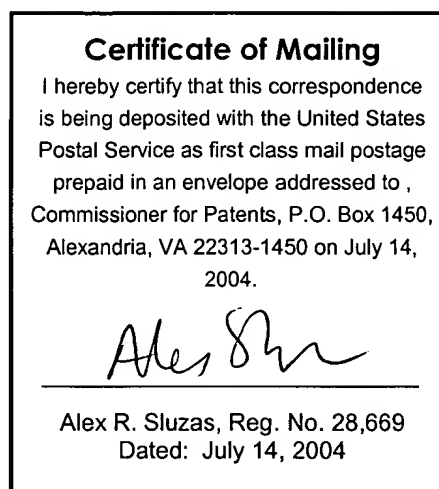
Filed: November 29, 2001

For: **PORTABLE HEATER**

Examiner: John A. Jeffery

Art Unit: 3742

Att'y Docket: 305-01



Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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TECHNOLOGY CENTER R3700

REQUEST FOR REINSTATEMENT OF APPEAL

Sir:

Responsive to the Examiner's Action mailed April 14, 2004, reopening prosecution of this application, applicant respectfully requests reinstatement of the appeal. A supplement appeal brief is enclosed herewith. This request is being filed within the three-month shortened statutory period for response set in the Examiner's Action of April 14, 2004.

July 14, 2004

Order No. 2419

Respectfully submitted,

Alex R. Sluzas, Esq.
Reg. No. 28,669

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Alex R. Sluzas, Reg. No. 28,669
Dated: July 14, 2004

TRANSMITTAL LETTER WITH CERTIFICATE OF MAILING

Dear Sir:

Enclosed herewith please find the following documents for filing in the United States

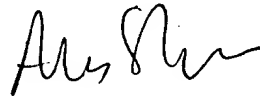
Patent and Trademark Office:

1. This transmittal letter with Certificate of Mailing (in duplicate);
2. Request for Reinstatement of Appeal;
3. Appeal Brief (in triplicate); and
4. Acknowledgement post card to be date-stamped and returned to Paul & Paul.

Serial No: 09/996,842
July 14, 2004
Page 2

No additional fee is believed to be required with the filing of this Request for Reinstatement of Appeal or the Supplemental Appeal Brief. However, if a fee is required the Office is hereby authorized to charge any additional fee, or credit any overpayment to Paul and Paul Deposit Account No. 16-0750, Order No. 2419.

Respectfully submitted,



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July 14, 2004

Order No: 2419



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent
appln. of: Kosta L. PELONIS

Serial No.: 09/996,842

Filed: November 29, 2001

For: **PORTABLE HEATER**

Examiner: John A. Jeffery

Art Unit: 3742

Att'y Docket: 305-01

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Dated: July 14, 2004

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SUPPLEMENTAL APPEAL BRIEF

Sir:

This supplemental appeal brief is submitted under certificate of mailing on
Wednesday, July 14, 2004 in response to the Examiner's Action mailed April 14, 2004 in
the above-referenced patent application reopening prosecution of the above-referenced
application, and setting a three-month shortened statutory period for response.
Applicant submitted an appeal brief in support its appeal of the Examiner's final rejection
of all claims. Instead of submitting an Examiner's Answer, the Examiner withdrew the
final rejection, reopened prosecution, and entered a new, non-final rejection, over the
same art relied upon in the now-withdrawn final rejection.

I. Real Party in Interest

This application has been assigned to Pelonis USA, Ltd. a Delaware corporation.

II. Related Appeals and Interferences

There are no related appeals or interferences.

III. Status of the Claims

The claims in the application are claims 1-7.

No claims stand allowed.

Claims 1-7 stand finally rejected.

The claims on appeal are claims 1-7.

IV. Status of Amendments

The claims have not been amended during prosecution before the Examiner.

V. Summary of the Invention

The present invention provides a portable heater comprising a sealed radiator containing a diathermal fluid. The radiator includes a plurality of tubular radiator units. Each of the tubular radiator units has respective upper portions and respective lower portions. The portable heater further includes at least one electric heating element positioned within the sealed radiator, as well as a fan positioned above the sealed radiator for directing air on the upper portions of the tubular radiator units. The fan is effective to cool the upper portions of the tubular units. This enhances thermal convection of the diathermal fluid within the tubular radiator units.

The present invention thus advantageously reduces the surface area required for transferring heat from the electric heating element via the diathermal fluid to the room air. Thus, at least one fewer tubular radiator unit is required, with a concomitant reduction in the cost of manufacturing the portable heater. In addition, the radiator can be maintained at a cooler temperature. It has been calculated that for every 10 degrees Celsius that the operating temperature can be reduced, the power consumption per tubular radiator unit can be concomitantly reduced by 250 watts. Thus, the power consumption of the portable heater can be advantageously reduced. Further, the present invention provides more rapid heat distribution from the portable heater to the room.

Preferably, the heater includes a centrifugal fan driven by an electric motor. It is also preferred that a quiet fan be employed. To that end, it is preferred that the electric motor operates at low rpm, preferably at less than 2500 rpm, and more preferably at less than 1000 rpm. Preferably, the portable heater includes a cover enclosing the fan.

VI. Issue Presented

Whether the Examiner erred in his conclusion that the combination of U.S. Patent 2,075,323 ("Woolley") and U.S. Patent 4,870,253 ("De'Longhi") renders claims 1-7 unpatentable as obvious under 35 U.S.C. 103(a), and in particular, whether claims 1-7 are unpatentable over De'Longhi in view of Woolley, under 35 U.S.C. 103(a).

VII. Grouping of Claims

The claims comprise a single group.

VIII. Argument

The Examiner's rejection is not correct.

The Examiner's comments in the Action mailed April 14, 2004 misapply the cited art to applicant's claims.

The Examiner states that De'Longhi discloses a portable, sealed electrically-heated radiator containing a diathermal fluid within tubular radiator units. The Examiner further states that the diathermal fluid is heated by an electric heater 4 positioned within the sealed radiator, referencing Figs. 1 and 2.

The Examiner alleges that a centrifugal fan 6 (col. 4, line 22) mounted adjacent the tubular units enhances thermal convection.

The Examiner asserts that the present claims differ from De'Longhi in calling for the fan to be positioned above the sealed radiator to enhance thermal convection of the diathermal fluid within the tubular radiator units.

The Examiner further states that Woolley discloses a covered, sealed radiator heater comprising a plurality of tubular radiator units and fans 18 positioned above the radiator units for directing air onto the radiator units' upper portions enhancing thermal convection, referencing Fig. 1 and page 1, col. 2, lines 27-42. The Examiner cites page 1, col. 1, lines 24-35 of Woolley, for the proposition that "air is projected downwardly over the heat transferring surfaces of the radiator and is discharged at a predetermined point near the floor of the room ...thereby positively heating a maximum volume of the room air, and also most effectively distributing heat uniformly throughout the room."

The Examiner concludes that, in view of Woolley, it would have been obvious to one of ordinary skill in the art to provide the fan above the tubular radiator units in De'Longhi to air is project air downwardly over the heat transferring surfaces of the radiator and discharge air at a predetermined point near the floor of the room thus

positively heating a maximum volume of room air, and more uniformly distributing heat throughout the room.

The Examiner's conclusion is not correct.

The modification that the Examiner suggests would destroy or substantially impair the utility of De'Longhi's invention. In De'Longhi's unit, the thermoventilation unit 6 can be partially rotated from a position in which air is directed parallel the floor "in a direction substantially orthogonal to the radiator 2" (col. 2, lines 13-17; Fig. 2), "so as to direct the resistors 8 . . . partially against the portion 10 of the radiating elements cooperating to heat the diathermal oil contained therein so as to accelerate the attainment of the optimum operating temperature of the heater for heating the room." (col. 2, lines 43-50).

The modification suggested by the Examiner requires substantial, significant changes in De'Longhi's mobile room heating apparatus. In particular, the modification requires that:

- 1) that De'Longhi's thermoventilation unit be moved from the bottom of the radiator to the top of the radiator;
- 2) that De'Longhi's thermoventilation unit be mounted differently, such that the fan directs air downward through the heating elements, rather than, optionally, "partially against" the radiating elements;
- 3) that the set of resistors 8 of De'Longhi's thermoventilation unit be turned off while air is being directed through the radiating elements, rather than being maintain on to help heat the diathermal fluid when the radiator is initially turned on.

These changes would destroy or substantially impair the utility of De'Longhi's apparatus. First, "[n]ot [the] least object of [De'Longhi's] invention is to provide a mobile apparatus for heating rooms which allows to produce in the room in which it is placed a

uniform air circulation so as to eliminate the difference in temperature between the lower region proximate the floor of the room and the region of the room proximate to the ceiling thereof”

Moving the thermoventilation unit 6 from the bottom of the apparatus to the top of the apparatus means that the unit could no longer be rotated to direct heated air substantially parallel and adjacent to the floor of the room. Instead, heated air would be directed parallel to the floor, but at a height several feet above the floor (depending on the height of the portable heating unit). The object of providing a uniform circulation of air in the room would thus be impaired by the proposed modification.

Similarly, when the air is directed downward through the radiating elements, room air circulation is likely to be reduced. In the proposed modification, heated air would emerge from the bottom of the mobile heating apparatus, and the stream of heated air would be redirected by contact with the floor so that the stream of heated air would emerge orthogonal to the initial direction, but be directed in all directions, 360 degrees around the mobile heating apparatus. Thus, instead of a strong air stream being directed in one direction, the proposed modification would provide a weak stream directed in a plane parallel the floor, but in all directions. The hot air stream would begin rising immediately, so that while the room would become heated in the vicinity of the mobile heating apparatus, uniform circulation of air in the room would not be achieved.

Consequently, Woolley would not provide one of ordinary skill in the art with any motivation to modify De'Longhi's portable radiator in the manner suggested by the Examiner.

With respect to the Examiner's comment concerning the limitation calling for enhancing thermal convection of the diathermal fluid, applicant agrees with the Examiner that mounting a fan above the tubular radiation units in De'Longhi, such that

the fan blow air directly on, and downwardly over, the tubular units, would inherently influence the temperature of the diathermal fluid contained therein. However, applicant respectfully points out that the effect on thermal convection depends on the factual specifics (and thermal convection may be reduced under some circumstances), such that limitation is not met merely by arranging the fan as suggested by the Examiner.

Reconsideration and reversal of the Examiner's rejection entered under 35 U.S.C. 103(a) over De'Longhi in view of Woolley are respectfully requested for these reasons.

With respect to the Examiner's comments concerning claims 5 and 6, and driving an electric fan at lower speed, applicant hereby incorporates by reference his responses appearing in the previously filed appeal brief.

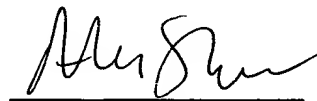
IX. Conclusion

As all claims as amended are believed to be in condition for allowance, an early favorable action and reversal of the rejection entered by the Examiner are earnestly solicited.

July 14, 2004

Respectfully submitted,

Order No. 2419



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APPENDIX

CLAIMS ON APPEAL:

1. A portable heater comprising:
 - (a) a sealed radiator containing a diathermal fluid, the radiator including a plurality of tubular radiator units, the tubular radiator units having respective upper portions and respective lower portions;
 - (b) at least one electric heating element positioned within the sealed radiator;
 - (c) a fan positioned above the sealed radiator for directing air on the upper portions of the tubular radiator units, the fan being effective to cool the upper portions of the tubular units to enhance thermal convection of the diathermal fluid within the tubular radiator units.
2. A portable heater according to claim 1 wherein the fan comprises a centrifugal fan.
3. A portable heater according to claim 2 further comprising an electric motor for driving the centrifugal fan.
4. A portable heater according to claim 3 wherein the electric motor operates at low rpm.
5. A portable heater according to claim 4 wherein the electric motor operates at less than 2500 rpm.
6. A portable heater according to claim 5 wherein the electric motor operates at less than 1000 rpm.
7. A portable heater according to claim 1 further comprising a cover enclosing the fan.